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Sequence Listing could not be accepted due to errors.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: markspencer

Timestamp: [year=2008; month=7; day=17; hr=15; min=19; sec=55; ms=898;]

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Reviewer Comments:

210> 17

<211> 69

<212> DNA

<213> modified E. coli thermostable enterotoxin II signal sequence

* * * * *

Numeric identifier <213> can only be one of three choices, "Scientific name, i.e. Genus/species, Unknown or Artificial Sequence." SEQ ID # 24 has this same error.

numeric identifier <160> indicates there are 36 sequences in this sequence listing, "<160> 36." The actual number counted is 35 sequences. Please make all necessary changes to correct this error.

Application No: 10576068 Version No: 2.0

Input Set:

Output Set:

Started: 2008-06-18 15:56:48.933
Finished: 2008-06-18 15:56:50.717
Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 784 ms
Total Warnings: 35
Total Errors: 1
No. of SeqIDs Defined: 36
Actual SeqID Count: 35

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 402	Undefined organism found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

Input Set:

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Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (21) This error has occurred more than 20 times, will not be displayed
W 402	Undefined organism found in <213> in SEQ ID (24)
E 252	Calc# of Seq. differs from actual; 36 seqIDs defined; count=35

SEQUENCE LISTINGS

<110> Hanmi Pharm. Co., Ltd.

<120> EXPRESSION VECTOR FOR SECRETING ANTIBODY FRAGMENT USING E. COLI SIGNAL SEQUENCE AND METHOD FOR MASS-PRODUCING ANTIBODY FRAGMENT

<130> Q94300

<140> 10576068

<141> 2008-06-18

<150> KR1020030072216

<151> 2003-10-16

<150> PCT/KR04/02625

<151> 2004-10-14

<160> 36

<170> KopatentIn 1.71

<210> 1

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

<400> 1

gggaagcttc gatcgacat ccagatgacc cagtctccat cctccctgtc tgcatactgta 60

ggggacagag tcacc 75

<210> 2

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

<400> 2

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ggtgactctg tccccctacag 80

<210> 3

<211> 80

<212> DNA

<213> Artificial Sequence

<220>
<223> gene fragment of light chain variable region

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tgcaatcagg ggtcccatct 80

<210> 4
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> gene fragment of light chain variable region

<400> 4
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agatgggacc cctgattgca 80

<210> 5
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> gene fragment of light chain variable region

<400> 5
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caccgatatac ttttggccag 80

<210> 6
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> gene fragment of light chain variable region

<400> 6
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<210> 7
<211> 75
<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of heavy chain variable region

<400> 7
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aggtaatgtt gactc 75

<210> 8
<211> 79
<212> DNA
<213> Artificial Sequence

<220>

<223> gene fragment of heavy chain variable region

<400> 8
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gagtctcagg gacctgccc 79

<210> 9
<211> 80
<212> DNA
<213> Artificial Sequence

<220>

<223> gene fragment of heavy chain variable region

<400> 9
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atagtggtca catagactat 80

<210> 10
<211> 80
<212> DNA
<213> Artificial Sequence

<220>

<223> gene fragment of heavy chain variable region

<400> 10
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atagtctatg tgaccactat 80

<210> 11
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> gene fragment of heavy chain variable region

<400> 11
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attactgtgc gaaagtctcg 80

<210> 12
<211> 84
<212> DNA
<213> Artificial Sequence

<220>
<223> gene fragment of heavy chain variable region

<400> 12
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ggtacgagac tttcgacag taat 84

<210> 13
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> RT-PCR forward primer specific for heavy chain

<400> 13
cccaagctta ggcctccacc aagggccat cggtcttcc 39

<210> 14
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> RT-PCR reverse primer specific for heavy chain

<400> 14
gggggatcct tatgggcacg gtgggcatgt gtgagtttg tcacaaga 48

<210> 15

<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> RT-PCR forward primer specific for light chain

<400> 15
cccaagctt cgcgaactgt ggctgcacca tctgtcttca tc 42

<210> 16
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> RT-PCR reverse primer specific for light chain

<400> 16
cccgatccc taacactctc ccctgttgaa gctctttgtg ac 42

<210> 17
<211> 69
<212> DNA
<213> modified E. coli thermostable enterotoxin II signal sequence

<400> 17
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gcccaggcgc 69

<210> 18
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer containing StuI restriction enzyme site

<400> 18
tctattgcta caaatgccca ggccttccca accattccct tatcc 45

<210> 19
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer containing StuI restriction enzyme site

<400> 19
agataacgat gtttacgggt ccggaagggt tggtaaggga atagg 45

<210> 20
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
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<400> 20
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<210> 21
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer containing SD sequence and BamHI restriction enzyme site

<400> 21
gggggatcca ggaggtgatt tatgaaaaag acaatcgcat ttc 43

<210> 22
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer containing BpuI restriction enzyme site

<400> 22
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<210> 23
<211> 52
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer containing BpuI restriction enzyme site

<400> 23
ggggctcagc tcacgcggcg catgtgtgag ttttgtcaca agattnaggc tc 52

<210> 24
<211> 63
<212> DNA
<213> E. coli OmpA signal sequence

<400> 24
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gct 63

<210> 25
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer specific for heavy chain

<400> 25
gaggttcagc tagtcagtc aggaggcggt 30

<210> 26
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer containing HindIII and StuI restriction enzyme sites

<400> 26
gggagatctt cacgcggcgc atgtgtgagt tttgtcacaa gatttaggct c 51

<210> 27
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer containing stop codon and BamHI restriction enzyme site

<400> 27
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<210> 28
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer containing HindIII and NruI restriction enzyme sites

<400> 28
cccagatctc taacactctc ccctgttgaa gctctttgtg ac 42

<210> 29
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer containing stop codon and BamHI restriction enzyme site

<400> 29
ggggtcgaca ggaggtgatt tatgaaaaag acagctatcg c 41

<210> 30
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer containing SalI restriction enzyme site

<400> 30
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<210> 31
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer specific for modified E. coli enterotoxin II signal peptide and containing NdeI restriction enzyme site

<400> 31
gggcatatga aaaagacaat cgcatatctt ctgtcatcta tg 42

<210> 32
<211> 705
<212> DNA
<213> Artificial Sequence

<220>

<223> TNF-alpha heavy chain

<400> 32
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ccagggaaagg gcctggaatg ggtctcagct atcacttgga atagtggtca catagactat 180
gcggactctg tggagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaataatga acagtcgtgag agctgaggat acggccgtat attactgtgc gaaagtctcg 300
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agtgcctcca ccaagggccc atcggtcttc cccctggcac cctcctccaa gagcacctct 420
gggggcacag cggccctggg ctgcctggc aaggactact tccccgaacc ggtgacggtg 480
tcgtggaact caggcgccct gaccagcgcc gtgcacacct tcccgctgt cctacagtcc 540
tcaggactct actccctcag cagcgtggtg accgtgcctt ccagcagctt gggcacccag 600
acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gaaagtttag 660
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<210> 33

<211> 645

<212> DNA

<213> Artificial Sequence

<220>

<223> TNF-alpha light chain

<400> 33
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gggaaagccc ctaagctcct gatctatgtc gcatccactt tgcaatcagg ggtcccatct 180
cggttcagtg gcagtggtatc tggacagat ttcactctca ccatcagcag cctacagct 240
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gggaccaagg tggaaatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaaagggtg gataacgccc tccaatcggtt taactccct 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540

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ctgagctcgcccgcacaaa gagttcaac aggggagagt gttag 645

<210> 34

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Recombinant light chain of TNF-alpha Fab'

<400> 34

Asp Ile Gln Met Thr Gln Ser

1 5

<210> 35

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Recombinant heavy chain of TNF-alpha Fab'

<400> 35

Glu Val Gln Leu Glu Val Asp Ser

1 5